

ABSTRACT

System for determining the occupancy of a seat in a vehicle using pattern recognition technologies and techniques that apply to any combination of transducers that provide information about seat occupancy, for example, weight sensors, capacitive sensors, inductive sensors, ultrasonic, optical, electromagnetic, motion, infrared and radar sensors. A processor is coupled to the transducers for receiving data therefrom and processes the data to obtain an output indicative of the seat's current occupancy state. A combination neural network is resident in the processor and is created from data sets, each representing a different occupancy state of the seat and being formed from data from the transducers while the seat is in that occupancy state. The combination neural network produces the output indicative of the current occupancy state of the seat upon inputting a data set representing the current occupancy state of the seat and being formed from data from the transducers.